Editorials

The Importance and Challenges of Reducing Low-Value Care in Children

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See related Lown Right Care on page 302.

Low-value care refers to interventions for which harms typically exceed benefits (e.g., antibiotics for the common cold) or interventions for which the costs outweigh the benefits (e.g., routine neuroimaging for children with head trauma).[1] Eliminating the use of low-value care in children is crucial for several reasons.

First, it is widespread. In an analysis of Medicaid and private insurance claims data from 12 U.S. states, 11.0% of publicly insured children and 8.9% of privately insured children received any of 20 low-value services at least once during 2014. These services included prescriptions for cough and cold medications in young children, skin prick or immunoglobulin E testing in children with atopic dermatitis, screening for cervical cancer in adolescents, screening for vitamin D deficiency, and testing for group A streptococcal pharyngitis before three years of age.[2] In a study of 2016 private insurance claims data, 10.6% of U.S. children received at least one antibiotic prescription for a condition that did not justify the use of antibiotics.[3] The true prevalence of low-value care in children is likely higher than suggested by these studies, which assessed only services that can be classified as low-value using information available in claims data.[2,3]

Second, low-value care can harm children and their families. Physical harms can occur over the short term, such as emergency department visits for anaphylaxis after unnecessary antibiotic exposure, or over the long term, such as radiation-induced malignancy from unnecessary imaging tests during childhood.[4,5] Emotional harms include the stress associated with false-positive test results and the anxiety many children experience during medical interventions.

Finally, low-value care in children is costly, both for the health care system and families. One analysis estimated that $227 million was spent on 20 low-value services in 2014 for privately insured U.S. children alone; families paid for one-third of this cost out of pocket.[6] Notably, this estimate does not account for downstream costs associated with low-value care, such as the cost of follow-up evaluation for abnormal test results that prove to be clinically meaningless.

The case scenario presented in the Lown Right Care department in this issue of *American Family Physician* illustrates the harms of low-value care in children.[7] In the scenario, an electrocardiogram (ECG) is performed in an adolescent during a preparticipation sports examination even though the patient lacks risk factors for sudden cardiac death. Because of potentially concerning ECG findings, the patient is excluded from sports until a cardiologist interprets these findings as benign during a follow-up visit. In this example, harms included the temporary exclusion from sports, the direct costs of ECGs and the cardiology visit, and the indirect costs to the family (e.g., costs of transportation to the cardiologist visit, missed school or work). The ECG may have also caused unnecessary emotional stress to the patient and family because it erroneously raised the possibility of a potentially life-threatening cardiac disorder.

Despite the harms that can arise from routine ECG screening during preparticipation examinations, eliminating this practice may be especially challenging. The key reason is that the distribution of benefit is skewed, but the magnitude of potential benefit is enormous. For the overwhelming majority of children, routine ECGs will have no or even negative benefit. Yet, for a small number of children, routine ECGs could potentially detect a life-threatening cardiac condition. If clinicians believe the benefits for these few children outweigh the potential harms for everyone else, they are likely to resist initiatives to eliminate routine use of ECGs in preparticipation examinations. Even clinicians who do not believe in routinely ordering ECG screening may find it difficult to eliminate this screening for all low-risk children

because families may ask for the test for reassurance. As suggested in the Lown Right Care commentary, clinicians faced with this situation could engage in shared decision-making, thus increasing the likelihood that screening decisions align with the family's values.

The potential for shared decision-making to reduce low-value care in children is not limited to ECG screening during preparticipation examinations. When a patient or caregiver requests services that are unwarranted, such as antibiotics for the common cold, clinicians can discuss the lack of benefits and potential for harms, explain the scenarios in which the requested care might become appropriate, and design a plan of action that accounts for the family's concerns and values. By partnering with families in this manner, clinicians can help achieve the essential goal of reducing unnecessary and potentially harmful care in children.

Dr. Chua thanks Rena Conti, PhD, Questrom Boston University School of Business, for her helpful comments on this manuscript.

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Author disclosure: No relevant financial affiliations.

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